

ABSTRACT**GIANT MAGNETORESISTANCE (GMR) READ HEAD WITH REACTIVE-ION-
ETCH DEFINED READ WIDTH AND FABRICATION PROCESS**

The GMR read head includes a GMR read sensor and a longitudinal bias (LB) stack in a
5 read region, and the GMR read sensor, the LB stack and a first conductor layer in two overlay
regions. In its fabrication process, the GMR read sensor, the LB stack and the first conductor
layer are sequentially deposited on a bottom gap layer. A monolayer photoresist is deposited,
exposed and developed in order to open a read trench region for the definition of a read width,
and RIE is then applied to remove the first conductor layer in the read trench region. After liftoff
10 of the monolayer photoresist, bilayer photoresists are deposited, exposed and developed in order
to mask the read and overlay regions, and a second conductor layer is deposited in two unmasked
side regions. As a result, side reading is eliminated and a read width is sharply defined by RIE.